

# Communication Equipment

## 1998

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*(Formerly Series No. MA36P)*

Information about the scope of the survey, methodology, explanation of terms and historical notes for this survey may be found in the introduction of the 1997 Manufacturing Profiles, issued August 1999.

Current data are released electronically on Internet for all individual surveys as they become available. Use: <http://www.census.gov/econ/www/manumenu.html>. Individual reports can be accessed by choosing "Current Industrial Reports (CIR's)," clicking on "Report Number Index;" from the "Industrial Products by Numeric Index," choose the survey of interest. Follow the menu to view the PDF file or to download the worksheet file (WK format) to your personal computer.

These data are also available through the U.S. Department of Commerce and STAT-USA Electronic Bulletin Board by subscription. To access, dial 202-482-3870 and follow the prompts to register. Also, you may call 202-482-1986 or 1-800-STAT-USA, for further information. The Internet address is: [www.stat-usa.gov/](http://www.stat-usa.gov/).

NOTE: Data are now published on the new North American Industry Classification System (NAICS) basis and therefore are not always comparable

to the old Standard Industrial Classification (SIC) code. For further information on NAICS, see [www.census.gov/epcd/www/naics.html](http://www.census.gov/epcd/www/naics.html).

### Summary of Findings

During 1998, the total value of shipments of communication equipment totaled \$77.2 billion, an increase of 4.9 percent from the 1997 value of \$73.6 billion. Shipments of telephone switching equipment totaled \$12.3 billion, an increase of 1.9 percent from the \$10.3 billion shipped in 1997. Shipments of carrier line equipment and nonconsumer modems increased 9 percent from \$7.3 billion in 1997 to \$8 billion in 1998. Other telephone and telegraph equipment shipped in 1998 totaled \$18.2 billion, an increase of 10.2 percent from the \$16.5 billion shipped in 1997. Communication systems and equipment decreased 2.5 percent from \$29.4 billion shipped in 1997 to \$28.7 billion in 1998. Shipments of broadcast, studio, and related electronic equipment increased 2.1 percent from \$3.4 billion shipped in 1997 to \$3.5 billion shipped in 1998. Alarm systems totaled \$2 billion in 1998, an increase of 5.5 percent from the \$1.9 billion in 1997.

Current  
Industrial  
Reports

Address inquiries concerning these data to Investment Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Cynthia Ramsey, 301-457-4823.

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# U S C E N S U S B U R E A U

*Helping You Make Informed Decisions*

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. Census Bureau



Table 1. Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Class of Product: 1988 to 1998  
[Millions of dollars]

Product code	Product description	1998	1997	1996	1995	1994	1993
	Communication equipment, including telephone, telegraph, and other electronic systems and equipment.....	77,170.1	73,587.8	65,608.6	56,362.0	49,598.1	42,113.8
3342101	Telephone switching and switchboard equipment.....	12,317.0	10,302.2	9,617.7	8,178.4	8,067.6	7,240.9
3342104	Carrier line equipment and modems.....	7,968.3	r/ 7,278.1	7,544.6	5,868.6	5,114.0	4,993.3
3342107	Other telephone and telegraph equipment and components 1/.....	18,170.4	16,488.1	14,030.9	10,510.0	8,479.5	7,026.4
3342201	Communication systems and equipment (except broadcast).....	28,686.2	29,416.0	25,332.5	23,031.9	19,977.5	16,196.7
3342203	Broadcast, studio, and related electronic equipment.....	3,451.5	3,360.5	3,000.2	2,844.7	2,469.5	2,077.5
3342903	Intercommunications systems, including inductive paging systems (selective calling).....	268.3	256.4	277.8	296.0	283.7	241.7
3342901	Alarm systems.....	2,039.8	1,926.5	1,802.8	1,662.1	1,550.5	1,532.4
3342902	Vehicular and pedestrian traffic control equipment and electrical railway signals and attachments.....	904.8	r/ 963.7	762.0	710.7	669.9	573.4
3333197	Electronic teaching machines, teaching aids, trainers and simulators.....	750.2	r/ 872.0	865.7	913.3	838.5	847.7
3359997	Laser sources 2/.....	928.6	991.8	843.8	787.5	726.4	(NA)
335999A	Ultrasonic equipment.....	204.1	r/ 212.9	184.3	172.3	137.5	127.3
335999C	Other electronic systems and equipment, n.e.c. ....	1,480.8	r/ 1,519.7	1,346.3	1,386.5	1,283.5	1,256.5
		1992	1991	1990	1989	1988	
	Communication equipment, including telephone, telegraph, and other electronic systems and equipment.....	39,501.9	37,821.0	36,990.3	35,415.7	35,702.4	
3342101	Telephone switching and switchboard equipment.....	7,291.3	6,956.6	7,537.1	6,975.5	7,399.7	
3342104	Carrier line equipment and modems.....	4,810.6	4,298.4	5,013.8	4,705.7	5,589.0	
3342107	Other telephone and telegraph equipment and components 1/.....	5,507.3	4,909.5	3,180.5	3,061.8	3,066.5	
3342201	Communication systems and equipment (except broadcast).....	15,162.8	14,987.9	14,768.0	14,016.3	12,213.0	
3342203	Broadcast, studio, and related electronic equipment.....	1,948.2	1,836.3	1,856.4	1,809.6	1,804.2	
3342903	Intercommunications systems, including inductive paging systems (selective calling).....	288.5	303.8	346.1	367.8	392.6	
3342901	Alarm systems.....	1,370.4	1,145.0	1,027.2	1,132.5	1,164.7	
3342902	Vehicular and pedestrian traffic control equipment and electrical railway signals and attachments.....	597.3	491.1	470.6	451.1	387.0	
3333197	Electronic teaching machines, teaching aids, trainers and simulators.....	1,310.8	1,411.0	1,208.8	1,359.6	1,243.7	
3359997	Laser sources 2/.....	(NA)	(NA)	(NA)	(NA)	(NA)	
335999A	Ultrasonic equipment.....	119.2	113.7	108.8	137.7	101.3	
335999C	Other electronic systems and equipment, n.e.c. ....	1,095.5	720.8	1,473.0	1,398.1	1,446.0	

NA Not available. n.e.c. Not elsewhere classified. r/Revised by 5 percent or more from previously published data.

1/Total for product code 3342104 does not include product codes 3344184001 and 3344184003.

2/Beginning in 1994, data for "Laser equipment, instrumentation, and components" have been eliminated from this survey. Only "Laser sources" are being collected.

Table 2. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 1998 and 1997  
[Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	1998		1997	
			Quantity	Value	Quantity	Value
3342101	Telephone switching and switchboard equipment.....	(NA)	(X)	12,317,020	(X)	10,302,187
	Central office switching equipment:					
3342101001	Local switching 1/.....	12	(X)	4,563,684	(X)	(D)
3342101003	Toll switching 1/.....	11	(X) b/	1,384,068	(X)	(D)
	Private branch exchange switching equipment:					
3342101011	Up to 99 lines.....	7	(X) a/	488,159	(X)	409,477
3342101013	100-399 lines.....	9	(X)	361,658	(X)	296,441
3342101015	400-1,000 lines.....	5	(X)	143,839	(X)	153,130
3342101017	Over 1,000 lines.....	6	(X) a/	118,614	(X)	104,255
3342101021	Cellular mobile telephone switching equipment 2/.....	11	(X)	(D)	(X)	(D)
3342101023	Packet switching equipment 2/.....	9	(X)	(D)	(X)	(D)
3342101025	Other telephone switching and switchboard equipment.....	30	(X) a/	1,328,544	(X)	2,063,384
3342101099	Parts, components and subassemblies for telephone switching equipment.....	24	(X)	396,746	(X) r/	376,616
3342104	Carrier line equipment and modems 3/.....	(NA)	(X)	7,968,285	(X) r/	7,278,101
	Carrier line equipment:					
	Repeaters and line transceivers:					
3342104001	Analog 4/5/.....	3	(X)	(D)	(X)	(D)
3342104003	Digital, all copper wire 4/5/.....	13	(X)	(D)	(X)	(D)
3342104005	Digital, optical input or output 4/5/.....	3	(X)	(D)	(X)	(D)
	Multiplex equipment, including channel banks:					
3342104011	Analog.....	6	(X) a/	25,038	(X) a/	31,649
3342104013	Digital, all copper wire 6/.....	26	(X)	(D)	(X)	(D)
3342104015	Digital, optical input or output 6/.....	8	(X)	(D)	(X)	(D)
	Other subscriber loop carrier terminal and line equipment:					
3342104021	Analog 7/.....	4	(X) a/	20,455	(X)	(D)
3342104023	Digital, all copper wire 7/.....	20	(X) a/	974,569	(X)	(D)
3342104025	Digital, optical input or output.....	6	(X) c/	1,387,002	(X) a/r/	1,370,021
	Other carrier line equipment:					
3342104031	Analog 4/8/.....	4	(X)	(D)	(X)	(D)
	Digital:					
3342104033	Meeting or exceeding T1 standard (1.5 mbps) 4/8/.....	13	(X)	(D)	(X)	(D)
3342104035	Other.....	12	(X)	1,069,616	(X)	827,975
	Modems.....	(NA)	4,744,779	969,777	r/ 5,033,441	r/ 1,115,045
	Up through 10,000 bps.....	(NA)	(D)	(D)	(D)	(D)
3344184001	Consumer.....	16 b/	640,227	98,285	b/ 618,490	b/ 101,107
3342104041	Nonconsumer 9/.....	5	(D)	(D)	(D)	(D)
	Over 10,000 bps.....	(NA)	(D)	(D)	(D)	(D)
3344184003	Consumer.....	20 c/	3,582,528	679,697	3,736,086	r/ 798,585
3342104043	Nonconsumer 9/.....	5	(D)	(D)	(D)	(D)
3342107	Other telephone and telegraph equipment and components.....	(NA)	(X)	18,170,384	(X)	18,709,706
	Telephone sets:					
3342107001	Single line and ISDN sets.....	11	1,050,991	80,110	a/ 1,816,060	135,122
3342107003	Key sets.....	8 b/	522,958	c/ 103,776	b/ 477,125	92,426
3342107005	Public pay telephone equipment.....	7	532,738	a/ 132,320	a/ 497,550	a/r/ 106,420
3342107007	Cordless handsets 10/.....	1	(D)	(D)	(D)	(D)
3342107009	Other telephone sets and accessories (e.g. handsets) 10/.....	14	(X)	(D)	(X)	(D)
	Other data communications equipment:					
3342107021	Routers and gateways.....	26	(X) c/	9,302,989	(X)	8,999,155
3342107023	Bridges.....	10	(X) a/	111,787	(X) a/	104,098
3342107025	Terminal servers 11/.....	6	(X)	(D)	(X)	(D)
3342107027	Concentrators 11/.....	7	(X)	(D)	(X)	(D)
3342107029	Other data communications equipment (front end processors, translators, etc.).....	43	(X) c/	1,657,386	(X) b/r/	1,260,091
3342107051	Voice frequency equipment.....	12	(X) a/	42,694	(X)	41,680
3342107055	Telephone key systems equipment 12/.....	6	(X)	(D)	(X)	(D)
3342107059	Video teleconferencing equipment (video CODECS and other systems equipment) 12/.....	12	(X)	(D)	(X)	(D)
	Voice/call message processing equipment, including answering devices:					
3342107061	Voice mail equipment.....	8	(X) c/	503,221	(X) b/	460,743
3342107063	Voice response equipment 13/.....	12	(X)	(D)	(X)	(D)
3342107065	Automated attendance equipment 13/.....	4	(X)	(D)	(X)	(D)

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Product code	Product description	No. of cos.	1998			1997		
			Quantity		Value	Quantity		Value
3342107067	Automatic call distributors 13/.....	3	(X)		(D)	(X)		(D)
3342107069	Other voice or call processing equipment.....	23	(X)	b/	311,518	(X)	b/r/	293,764
3342107091	Facsimile communication equipment (complete) 14/.....	5	(X)		(D)	(X)		(D)
3344160090	Telephone transformers.....	-	(X)		-	(X)		-
3342107097	Other telephone/telegraph equipment 14/.....	47	(X)		(D)	(X)		(D)
3342107099	Parts, components, and subassemblies for other telephone equipment.....	29	(X)	c/	362,972	(X)	r/	346,059
3342201	Communications systems and equipment (except broadcast).....	(NA)	(X)		28,686,231	(X)		29,418,945
	Radio station type 15/.....	(NA)	(X)		18,884,360	(X)		20,347,263
3342201301	Amateur.....	11	(X)	b/	9,132	(X)	c/	8,917
3342201303	Broadcast (sound and TV) 16/.....	6	(X)		(D)	(X)		(D)
3342201305	Earth exploration 16/.....	1	(X)		(D)	(X)		(D)
3342201307	Meteorological.....	6	(X)		68,614	(X)	b/r/	16,592
3342201101	Fixed.....	27	(X)	b/	2,644,234	(X)		2,574,740
3342201309	Intersatellite 16/.....	15	(X)		(D)	(X)		(D)
3342201311	Telecommand.....	4	(X)		25,315	(X)		19,248
3342201313	Telemetry.....	15	(X)	b/	81,048	(X)	c/r/	79,660
3342201315	Radionavigational and locational .....	10	(X)	a/	441,426	(X)		536,535
3342201317	Aeronautical communications.....	10	(X)		447,870	(X)		517,100
	Mobile:							
	Cellular system equipment:							
3342201201	Analog 17/.....	9	(X)		(D)	(X)		(D)
3342201204	Digital 17/.....	12	(X)		(D)	(X)		(D)
3342201207	Other conventional and trunked system equipment.....	14	(X)		294,875	(X)		323,312
3342201209	Other mobile.....	13	(X)	a/	121,088	(X)	a/r/	138,242
3342201319	Other.....	16	(X)		96,912	(X)	r/	138,242
	Other type.....	(NA)	(X)		9,801,871	(X)		9,071,682
3342201401	Checkout, monitoring, evaluation, and other electronic support equipment for communications systems.....	50	(X)	c/	609,130	(X)	a/	724,502
	Antenna systems (sold separately)							
3342201405	Below 890 MHz.....	47	(X)	a/	682,108	(X)		759,155
3342201407	890 MHz and above.....	49	(X)	b/	454,307	(X)	r/	438,818
	Fiber optics equipment, excluding connectors, cable, photodiode and laser diode components, microwave equipment, and multiplexers:							
	Equipment meeting SONET standards:							
3342201411	OC-1 equipment 18/.....	5	(X)		(D)	(X)		(D)
3342201412	OC-2 and 3 equipment 18/.....	6	(X)		(D)	(X)		(D)
3342201413	OC-4 up through OC-9 equipment 18/.....	2	(X)		(D)	(X)		(D)
3342201414	Greater than OC-9 equipment.....	5	(X)	c/	361,205	(X)		292,052
3342201419	Equipment not meeting SONET standards.....	19	(X)	b/	582,054	(X)	r/	576,267
3342201421	Other carrier equipment, n.e.c.....	20	(X)		262,399	(X)		281,242
3342201425	Other communications systems and equipment.....	170	(X)	b/	6,608,896	(X)	r/	5,798,374
3342203	Broadcast, studio, and related electronic equipment.....	(NA)	(X)		3,451,519	(X)		3,329,603
	Audio equipment, excluding consumer and PA types:							
3342203001	Amplifiers and preamplifiers.....	28	c/	589,855	b/	327,676	c/	632,272
3342203004	Control consoles and switchers.....	20	b/	37,214	b/	96,111	b/	40,637
3342203009	Other (power supplies, terminal equipment broadcast recorders, etc.) .....	35	(X)	b/	215,248	(X)	b/r/	274,194
	Video equipment, excluding consumer and PA types:							
3342203011	Amplifiers 19/.....	6			(D)			(D)
3342203014	Television cameras.....	5		24,482			31,945	
3342203015	Video tape recorders 19/.....	2		(X)	(D)		(X)	(D)
3342203019	Other (power supplies, synchronization equipment, terminal equipment monitors, telecine chains, control consoles and switchers, film equipment, and television outside vans).....	20	(X)		478,452	(X)		493,564
	Transmitters, translators, RF power amplifiers, and related equipment:							
3342203021	AM and FM transmitters.....	11	(X)		61,480	(X)		67,792
3342203024	Television transmitters.....	8	(X)	b/	163,046	(X)		124,793

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Product code	Product description	No. of cos.	1998		1997	
			Quantity	Value	Quantity	Value
3342203027	Other (broadcast transmission line equipment, phasing equipment, television boosters and repeaters (translators), etc.).....	22	(X) a/	701,977	(X) r/	671,687
3342203029	Studio transmission links (STL) and remote pickup equipment.....	5	(X) c/	51,317	(X) r/	46,461
3342203032	Cable television (master antennae and CATV equipment): Head end equipment (antennae baluns, carrier generators, headend control units, single and broadband pre-amplifiers and strip amplifiers, converters, modulators and demodulators; splitting filters and traps, power supplies, switches, etc.).....	21	(X) a/	239,843	(X) a/r/	247,998
3342203035	Subscriber converters 20/.....	2	(X)	(D)	(X)	-
3342203038	Subscriber equipment (decoders, switchers; wall outlet taps; distribution amplifiers; power suppliers; directional couplers, splitters, alternators, and equalizers) 21/.....	5	(X)	218,870	(X)	(D)
3342203041	Broadcasting transmitting antennae and community antennae systems 21/.....	10	(X) c/	69,868	(X)	(D)
3342203044	Closed circuit television systems and equipment, (specially designed cameras, monitors, video recorders, receivers, scan converters and control consoles) excluding broadcast and consumer products.....	23	(X)	478,843	(X) a/	389,268
3342203047	Other broadcast, studio, theater, and commercial sound equipment, sold separately, excluding studio lighting equipment, radiating and supporting towers 20/.....	5	(X)	(D)	(X) a/	227,812
3342203099	Parts and accessories for broadcast, studio, and related electronic equipment, sold separately.....	16	(X) b/	20,609	(X) a/r/	19,210
3342901	Alarm systems.....	(NA)	(X)	2,039,833	(X)	1,926,472
3342901101	Intrusion detection: Local.....	23	(X)	163,923	(X)	144,346
3342901201	Central station.....	17	(X)	528,532	(X)	446,695
3342901601	Direct connect.....	8	(X) c/	12,937	(X) b/r/	13,426
3342901603	Hold-up systems (commercial and industrial) 22/.....	4	(X)	(D)	(X)	(D)
3342901605	Automotive.....	7	(X) c/	185,317	(X) b/	204,065
3342901301	Fire detection and prevention: Smoke and heat detection alarms: Ionization chamber type.....	8	(X)	173,763	(X)	125,479
3342901401	Other, including photo cell type.....	17	(X)	308,145	(X)	356,024
3342901607	Central station.....	10	(X)	131,907	(X)	117,458
3342901501	Direct connect.....	13	(X)	154,731	(X) r/	142,501
3342901609	Other intercommunication and alarm systems, including electric sirens, and horns (marine, industrial, and air raid), and security locking systems 22/.....	30	(X)	(D)	(X)	(D)
3342902	Vehicular and pedestrian traffic control equipment, electrical railway signals, and attachments.....	(NA)	(X)	904,803	(X) r/	963,673
3342902101	Vehicular and pedestrian traffic control equipment: Signal heads, including parts and accessories.....	11	(X) a/	75,104	(X) a/	75,770
3342902103	Electronic and electromechanical controllers, detectors, and sensors, including parts and accessories .....	27	(X)	272,494	(X)	312,753
3342902201	Railway signals and attachments, electric: Railway highway grade crossing signals, excluding relays and other control apparatus 23/.....	5	(X)	(D)	(X)	(D)

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Product code	Product description	No. of cos.	1998		1997	
			Quantity	Value	Quantity	Value
3342902203	Other railway signal systems and safety control equipment 23/.....	10	(X)	(D)	(X)	(D)
3342903	Intercommunications systems, including inductive paging systems (selective calling):.....	(NA)	(X)	268,277	(X) r/	269,092
3342903001	Wired.....	38	(X) b/	217,712	(X) a/	211,028
3342903003	Nonwired.....	6	(X) c/	50,565	(X) a/r/	58,064
3333197	Electronic teaching machines, teaching aids, trainers and simulators .....	(NA)	(X)	750,241	(X) r/	872,042
3333197001	Electronic trainers and simulators.....	35	(X) a/	713,198	(X) r/	835,262
3333197004	Other electronic teaching machines and teaching aids.....	9	(X) b/	37,043	(X)	36,780
3359997	Laser sources.....	(NA)	(X)	928,571	(X)	1,046,962
	Gas lasers:					
3359997001	5 watts or less 24/.....	5	(X)	(D)	(X)	(D)
3359997003	6 watts to 100 watts 24/.....	7	(X)	(D)	(X)	(D)
3359997005	101 watts to 500 watts 24/.....	3	(X)	(D)	(X)	(D)
3359997007	Over 500 watts.....	6	(X) a/	266,366	(X) a/	41,869
	Solid-state lasers:					
3359997011	100 watts or less.....	16	(X) c/	72,323	(X) b/	60,147
3359997013	101 watts to 500 watts 25/.....	5	(X)	(D)	(X)	(D)
3359997015	Over 500 watts 25/.....	2	(X)	(D)	(X)	(D)
3359997021	Other lasers, including dye lasers 25/.....	14	(X)	(D)	(X)	(D)
335999A000	Ultrasonic equipment, n.e.c.....	20	(X)	204,103	(X) r/	212,919
335999C	Other electronic systems and equipment, n.e.c. ....	(NA)	(X)	1,480,784	(X) r/	1,585,898
335999C001	Consumer electronic equipment, n.e.c. ....	20	(X) a/	389,538	(X) a/r/	389,677
335999C005	Scientific electronic equipment, n.e.c. ....	19	(X) c/	35,272	(X) b/r/	45,304
335999C011	Industrial electronic equipment, n.e.c. ....	42	(X) a/	190,490	(X) a/r/	187,930
335999C015	All other electronic equipment, n.e.c. ....	95	(X) b/	865,484	(X) r/	962,987

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified.  
r/Revised by 5 percent or more from previously published data. X Not applicable.

- 1/Product codes 3342101001 and 3342101003 have a combined total of r/5,786,784 for 1997.
- 2/Product codes 3342101021 and 3342101023 have a combined total of a/3,531,708 for 1998 and r/1,112,100 for 1997.
- 3/Product codes 3344184001 and 3344184003 are not included in the total for 3342104.
- 4/Product codes 3342104001, 3342104003, 3342104005, 3342104031, and 3342104033 have a combined total of 2,940,834 for 1998.
- 5/Product codes 3342104001, 3342104003, and 3342104005 have a combined total of 1,221,053 for 1997.
- 6/Product codes 3342104013 and 3342104015 have a combined total of a/1,358,976 for 1998 and r/1,286,210 for 1997.
- 7/Product codes 3342104021 and 3342104023 have a combined total of 969,739 for 1997.
- 8/Product codes 3342104031 and 3342104033 have a combined total of 1,356,101 for 1997.
- 9/Product codes 3342104041 and 3342104043 have a combined total of b/191,795 for 1998 and r/215,353 for 1997.
- 10/Product codes 3342107007 and 3342107009 have a combined total of b/232,455 for 1998 and b/292,430 for 1997.
- 11/Product codes 3342107025 and 3342107027 have a combined total of 1,406,233 for 1998 and 2,572,069 for 1997.
- 12/Product codes 3342107055 and 3342107059 have a combined total of b/899,778 for 1998 and 945,833 for 1997.
- 13/Product codes 3342107063, 3342107065, and 3342107067 have a combined total of c/764,440 for 1998 and c/799,419 for 1997.
- 14/Product codes 3342107091 and 3342107097 have a combined total of a/2,258,705 for 1998 and 2,260,397 for 1997.
- 15/Of this total, space based (satellite) accounted for \$4.2 billion in 1998 and r/\$4.7 billion in 1997; airborne and marine based accounted for \$491 million in 1998 and \$536.8 million in 1997; earth (fixed) based accounted for \$4 billion in 1998 and \$4 billion in 1997; earth (mobile) portable based accounted for \$10.2 billion in 1998 and \$11.2 billion in 1997.
- 16/Product codes 3342201303, 3342201305, and 3342201309 have a combined total of 4,304,602 for 1998 and a/4,726,223 for 1997.
- 17/Product codes 3342201201 and 3342201204 have a combined total of 10,349,244 for 1998 and 11,283,546 for 1997.
- 18/Product codes 3342201411, 3342201412, and 3342201413 have a combined total of 241,772 for 1998 and r/213,456 for 1997.
- 19/Product codes 3342203011 and 3342203015 have a combined total of 8,832 for 1998 and r/36,780 for 1997.
- 20/Product codes 3342203035 and 3342203047 have a combined total of b/280,732 for 1998.
- 21/Product codes 3342203038 and 3342203041 have a combined total of r/280,162 for 1997.
- 22/Product codes 3342901603 and 3342901609 have a combined total of b/380,578 for 1998 and b/r/376,478 for 1997.
- 23/Product codes 3342902201 and 3342902203 have a combined total of 557,205 for 1998 and r/575,150 for 1997.
- 24/Product codes 3359997001, 3359997003, and 3359997005 have a combined total of a/210,592 for 1998 and r/245,796 for 1997.
- 25/Product codes 3359997013, 3359997015, and 3359997021 have a combined total of c/609,924 for 1998 and 643,968 for 1997.

Note: The percent of estimation of each item is indicated as follows: a/10 to 25 percent of this item has been estimated.  
b/25 to 50 percent of this item has been estimated. c/Over 50 percent of this item has been estimated.

Table 3. Shipments, Imports, and Exports of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment: 1998  
[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) 1/	Imports for consumption value) 2/
3342101011, 013, 015, 017	Private branch telephonic exchange switching apparatus.....	1,112,270	238,362	68,199
3342101001, 003	Central office telephonic switching apparatus .....	5,947,752	374,981	132,888
3342101021, 023, 025	Telephonic switching apparatus, n.e.c. ....	4,860,252	197,482	91,345
3342101099	Parts components, and subassemblies for telephone switching and switchboard apparatus .....	396,746	914,997	833,154
3342104001, 003, 005	Repeaters and line tranceivers, carrier line equipment 3/.....	(D)	30,151	10,333
3342104011, 013, 015, 021, 023, 025, 031, 033, 035	Carrier line equipment, n.e.c. 3/.....	(D)	1,062,450	919,043
3342107001, 003, 005, 007, 009	Telephone sets, including cordless handset telephones.....	548,661	1,859,199	2,151,811
3344184001, 041, 003, 043	Modems, including auxiliary sets.....	969,777	1,025,255	659,424
3342107021, 023, 025, 027, 029, 051, 059, 097	Telephone and telegraphic equipment, n.e.c., including voice frequency equipment 4/.....	(D)	894,033	341,082
3342107055	Telephone key systems 4/.....	(D)	14,762	11,377
3342107061, 063, 065, 067, 069	Telephone answering devices.....	1,579,179	97,482	158,346
3342107091	Facsimile communication equipment (complete) 4/.....	(D)	(NA)	780,271
3342107099	Parts, components, and subassemblies for other telephone equipment.....	362,972	1,450,471	1,186,834
3342203001	Audio amplifiers and preamplifiers, (except consumer and PA types).....	327,676	260,421	339,194
3342203021, 024, 027	Transmitters, translators, RF power amplifiers, and related equipment.....	926,503	683,750	250,744
3342201201, 204, 207, 209	Mobile radio systems and equipment, including tranceivers, and portable receivers, transmitter and receiver, hand held .....	10,765,207	6,411,075	3,044,391
3342903001, 003	Intercommunications systems, including inductive paging systems.....	268,277	157,302	54,934
3342203014	Television cameras (except consumer and PA types) .....	46,702	104,442	31,473
3342201405, 407 3342203041	Antennae systems, including broadcasting, transmitting, and community antennea systems.....	1,206,283	753,284	92,540
3342203032, 044, 035, 038	Cable television and closed circuit television systems and equipment, including AM and FM transmitters.....	(D)	739,147	-

Table 3. Shipments, Imports, and Exports of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment: 1998  
[Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) 1/	Imports for consumption (value) 2/
3342901101, 201, 601, 603, 605, 609	Intrusion detection alarm systems.....	1,271,287	69,332	217,983
3342901301	Smoke detection alarms, ionization type.....	173,763	12,493	103,780
3342901401	Smoke detection alarms, n.e.c., including photo cell type.....	308,145	48,981	67,110
3342901501, 607	Central station and direct connect fire detection and prevention alarm systems.....	286,638	171,204	119,681
3342902101, 103	Vehicular and pedestrian traffic control equipment .....	347,598	61,854	53,086
3342902201, 203	Railway signals and attachments, electric .....	557,205	20,201	3,778
3333197001	Electronic trainers and simulators.....	713,198	185,107	270,793
335999A000	Ultrasonic equipment, n.e.c. ....	204,103	213,830	1,447

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available.  
n.e.c. Not elsewhere classified.

1/Source: Census Bureau report EM 545, U.S. Exports.

2/Source: Census Bureau IM 145, U.S. Imports for Consumption.

3/Data for product codes 3342104001, 3342104003, 3342104005, 3342104011, 3342104013, 3342104015, 3342104021, 3342104023, 3342104025, 3342104031, 3342104033, and 3342104035, have a combined total for "manufacturers' shipments" of 7,776,490 for 1998.

4/Product codes 3342107021, 3342107023, 3342107025, 3342107027, 3342107029, 3342107051, 3342107055, 3342107059, 3342107091, and 3342107097, have a combined total for "manufacturers' shipments" of 15,679,572 for 1998.



**Table 4. Comparison of Standard Industrial Classification-based Product Codes with  
Schedule B Export Numbers and HTSUSA Import Numbers: 1998**

<b>Product code</b>	<b>Product description</b>	<b>Export number 1/</b>	<b>Import number 2/</b>
3342101011, 013, 015, 017	Private branch telephonic exchange switching apparatus.....	8517.30.2000	8517.30.2000
3342101001, 003	Central office telephonic switching apparatus .....	8517.30.1500	8517.30.1500
3342101021, 023, 025	Telephonic switching apparatus, n.e.c. ....	8517.30.3000	8517.30.3000
3342101099	Parts components, and subassemblies for telephone switching and switchboard apparatus .....	8517.90.2000	8517.90.2400 8517.90.3600 8517.90.5800
3342104001, 003, 005	Repeaters and line tranceivers, carrier line equipment....	8518.40.1000	8518.40.1000
3342104011, 013, 015, 021, 023, 025, 031, 033, 035	Carrier line equipment, n.e.c. ....	8517.50.5000 8517.50.6000 8517.50.9000	8517.50.5000 8517.50.6000 8517.50.9000
3342107001, 003, 005, 007, 009	Telephone sets, including cordless handset telephones.....	8517.11.0000 8517.19.0000 8518.30.1000 8525.20.9020	8517.11.0000
3344184001, 003 041, 043	Modems, including auxiliary sets.....	8517.50.1000	8517.50.1000
3342107021, 023, 025, 027, 029, 051, 059, 097	Telephone and telegraphic equipment, n.e.c., including voice frequency equipment .....	8517.30.5000 8517.80.1020 8517.80.2000	8517.30.5000 8517.80.1020 8517.80.2000
3342107055	Telephone key systems.....	8517.30.2500	8517.30.2500
3342107061, 063, 065, 067, 069	Telephone answering devices.....	8520.20.0000	8520.20.0040 8520.20.0080
3342107091	Facsimile communication equipment (complete).....	(NA)	8517.21.0000
3342107099	Parts, components and subassemblies for other telephone equipment.....	8517.90.5000	8517.90.1200 8517.90.3800 8517.90.5200 8517.90.6400
3342203001	Audio amplifiers and preamplifiers, (except consumer and PA types).....	8518.40.2000	8518.40.2000

Continued

Table 4. Comparison of Standard Industrial Classification-based Product Codes with  
Schedule B Export Numbers and HTSUSA Import Numbers: 1998

Product code	Product description	Export number 1/	Import number 2/
3342203021, 024, 027	Transmitters, translators, RF power amplifiers, and related equipment.....	8525.10.6010	8525.10.2040
		8525.10.6030	8525.10.6020
		8525.10.6050	8525.10.6040
		8525.10.6070	8525.10.6060
		8525.10.6090	8525.10.6080
		8525.10.8020	8525.10.7025
		8525.10.8040	8525.10.7045
			8525.10.7065
			8525.10.8000
			8525.10.9025
			8525.10.9045
			8525.10.9065
			8525.10.9085
			8525.10.9090
3342201201, 204, 207, 209	Mobile radio systems and equipment, including tranceivers, and portable receivers, transmitter and receiver, hand held .....	8525.20.1000	8525.20.0500
		8525.20.2000	8525.20.1500
		8525.20.3030	8525.20.2400
		8525.20.3040	8525.20.2800
		8525.20.3042	8525.20.3010
		8525.20.3045	8525.20.3015
		8525.20.3055	8525.20.3025
		8525.20.9040	8525.20.3040
		8525.20.9080	8525.20.3060
		8527.90.8025	8525.20.3065
		8529.90.5000	8525.20.3070
			8525.20.3080
			8525.20.9020
			8525.20.9060
			8525.20.9070
			8525.20.9080
3342903001, 003	Intercommunications systems, including inductive paging systems.....	8517.80.1010	8517.80.1010
		8527.90.8015	8531.80.4000
		8531.80.0035	
3342203014	Television cameras (except consumer and PA types).....	8525.30.0020	8525.30.3000
		8525.30.0070	8525.30.6000

**Table 4. Comparison of Standard Industrial Classification-based Product Codes with  
Schedule B Export Numbers and HTSUSA Import Numbers: 1998**

<b>Product code</b>	<b>Product description</b>	<b>Export number 1/</b>	<b>Import number 2/</b>
3342201405, 047 3342203041	Antennae systems, including broadcastings, transmitting, and community antennae systems.....	8529.10.2020 8529.10.2050 8529.10.4000 8529.10.6000	8529.10.2020 8529.10.2050 8529.10.4040 8529.10.6000
3342203032, 044, 038	Cable TV and closed circuit television systems and equipment including AM and FM transmitters.....	8525.10.2010 8525.10.2050	8525.10.2030
3342901101, 201, 601, 603, 605, 609	Intrusion detection alarm systems.....	8531.10.0035	8531.10.0035
3342901301	Smoke detection alarms, ionization type.....	9022.29.4000	9022.29.4000
3342901401	Smoke detection alarms, n.e.c., including photo cell type.....	8531.10.0015 8531.10.0025	8531.10.0015 8531.10.0025
3342901501, 607	Central station and direct connect fire detection and prevention alarm systems.....	8531.10.0045	8531.10.0045
3342902101, 103	Vehicular and pedestrian traffic control equipment.....	8530.80.0000 8530.90.0000	8530.80.0000 8530.90.0000
3342902201, 203	Railway signals and attachments, electric.....	8530.10.0000	8530.10.0000
3333197001	Electronic trainers and simulators.....	8805.20.0000	8805.20.0000
335999A000	Ultrasonic equipment, n.e.c. ....	8456.10.0000 8456.20.0000 8479.89.9585	8456.20.1010 8456.20.1050 8456.20.5000 8479.89.9585

NA Not available. n.e.c. Not elsewhere classified.

1/Source: 1998 edition, Harmonized System-Based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (1998).